



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO.      | CONFIRMATION NO.       |
|---|-------------|-----------------------|--------------------------|------------------------|
| 10/698,341  | 10/31/2003  | Gian Paolo Mattellini | 944-3.150-1              | .9660                  |
| 4955 7590 07/16/2007<br>WARE FRESSOLA VAN DER SLUYS &<br>ADOLPHSON, LLP<br>BRADFORD GREEN, BUILDING 5<br>755 MAIN STREET, P O BOX 224<br>MONROE, CT 06468 |             |                       | EXAMINER<br>TRAN, TUAN A |                        |
|   |             |                       | ART UNIT<br>2618         | PAPER NUMBER           |
|   |             |                       | MAIL DATE<br>07/16/2007  | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/698,341

Applicant(s)

MATTELLINI, GIAN PAOLO

Examiner

Tuan A. Tran

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,4,6 and 8 is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 10-11 and 15-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3, 5, 7, 9, 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Frain et al (EP 0701334).

Regarding claims 1, 3, 5 and 7, Frain discloses an apparatus (radio receivers of radio base station and subscriber equipment) and method (See fig. 6 and page 7 lines 20-21) by which the radio receiver, in receiving a signal transmitted over a radio channel, estimates the impulse response of the radio channel based on a received training sequence  $RX_C$  included in the received signal, the method including a step of performing a plurality of correlations (CORRN, CORR 1, CORR2) using a correlation sequence derived or calculated based on "averaging symbols of the received training sequence"  $RX_C$  (the derived or calculated correlation sequence is "an average of 16 symbols of the received training sequence"  $RX_c$  (See figs. 3, 5 and page 3 lines 20-39, page 4 lines 5-27).

Claims 9, 12-14 are rejected for the same reasons as set forth in claims 1, 3, 5 and 7.

***Allowable Subject Matter***

Art Unit: 2618

2. Claims 10-11 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 10-11 and 15-16, Frain discloses as cited in claims 9 and 14.

However, Frain does not mention that the correlation sequence is calculated by averaging a predetermined number of symbols from a first end of a correlation sequence of the received training sequence with a predetermined number of corresponding symbols from an additional part at a second end of the received training sequence as specified in claims.

3. Claims 2, 4, 6 and 8 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2, 4, 6 and 8, Frain discloses as cited in claim 1. However, Frain does not mention that the correlation sequence is calculated by averaging a predetermined number of symbols from a first end of a correlation sequence of the received training sequence with a predetermined number of corresponding symbols from an additional part at a second end of the received training sequence as specified in claim 2.

### ***Response to Arguments***

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

The applicant argued and tried to establish a limitation of: "a single calculated correlation sequence" is used to perform a plurality of correlations (See remark, page 9, first paragraph). The examiner respectfully disagrees with the applicant because the limitation "a single calculated correlation sequence" is not disclosed in claims. Further, since the applicant, throughout the Specification, does not clearly show and/or disclose the step of averaging symbols of the received training sequence to derive or calculate a correlation sequence; therefore, by taking an average of 16 symbols of the received training sequence to derive the correlation sequence(s) (See fig. 5), Frain perfectly reads on the claim language.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Tran whose telephone number is (571) 272-7858. The examiner can normally be reached on Mon-Fri, 10:00AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tuan Tran  
AU 2618